Remarks/Arguments:

Reconsideration of the application is requested.

Claims 13-25 are now in the application. Claims 1-12 were previously cancelled. Claims 13-24 have been amended. Claim 25 has been added. Support for claim 25 can be found in claim 13 of the instant application. Additionally, the dependent claims have been made to depend from claim 25. No new matter has been added.

In item 5 on page 3 of the above-identified Office action, claims 15 and 20 have been rejected as being indefinite under 35 U.S.C. § 112.

More specifically, the Examiner alleges that the phrase "time behavior of an electromotive force" is not understood. It is respectfully noted that the Examiner's allegation is misplaced. Specifically, the expression "electromotive force" is a well-known electric variable in the field of electric motors (see the attached support papers pertaining to Lenz's Law and lecture notes on electromagnetic theory from the University of Queensland). The "time behavior" of this electric variable is characterized by a curve or the plurality

of values of this variable over the time. Therefore, it is respectfully noted that the Examiner's allegation is misplaced. Accordingly, claim 20 does meet the requirements of 35 U.S.C. § 112, 2nd paragraph. Therefore, claim 20 has not been amended to overcome the rejection.

The Examiner alleges that claim 15 is not understood. The Examiner's allegation is vague. The Examiner is respectfully directed to carefully consider paragraphs 7-12, 30, and 31 of the specification. Furthermore, the pump circulates liquid through different circulating paths. For example, liquid is pumped through a pipe 13 to the lower rotating spray arm 7 (see figure 1) and is sprayed by the spray arm 7 upwards towards the lower dish rack 3, liquid drops down to the floor of the tub 1 and flows back through a filter 4 and a pipe to the pump 5. Thus, a first circulating path is defined. A second circulating path is defined by the pump 5, the pipe 12 to the upper rotating spray arm 6, the floor of the tub 1, the filter 4 in the floor of the tub 1 and the pipe from there to the pump 5. Accordingly, because of the different lengths of the two flow paths noted above, the fluid pressure or water head is different in the flow paths. Therefore, the pump has to handle different loads caused by different fluid pressures of these two flow paths. Naturally, other specific characteristics of each circulation path exist. Other

specific characteristics could be caused by different diameters, passages, flow-throughs of the specific tube 13 from the pump 5 to the lower spray arm 7 or of the specific tube 12 from the pump 5 to the upper spray arm 6. Furthermore, the construction of the lower and the upper spray arms 7, 6 can deviate from one another. For example, the nozzles of the lower spray arm could be formed differently than the nozzles of the upper spray arm. Hence, there are many specific parameters of each circulating path that have an impact on or influence the behavior or the characteristic of each circulating path. In addition, more details are disclosed in the section [0010] of the specification. In particular, "Wegner, Electrical Household Appliances/Engineering and Service, Verlag Hüthig &Pflaum 2000", is cited. Accordingly, claim 15 does meet the requirements of 35 U.S.C. § 112, 2nd paragraph. Therefore, claim 15 has not been amended to overcome the rejection.

In item 6 on page 3 of the above-identified Office action, claim 13 has been rejected as being indefinite under 35 U.S.C. § 112.

The Examiner alleges that the phrase "said monitoring device configured for respectively selecting a characteristic allocated to a current position of said directional valve" is

not understood. Claim 13 has been amended so as to further clarify the claim. Furthermore, it is noted that the set characteristic represents set values for the revolution speed **and** the power of the pump motor. Figure 3 shows two curves C1, C2 for the set values of the revolution speed n and the power P. C2 represents the characteristic for the circulating path with the upper spray arm 6. Accordingly, the description of the figures 1-4 of the original description explains in a very detailed way that the measured, actual values for the revolution speed **and** the power of the pump motor are compared with a set, i.e. given characteristic representing set values for the revolution speed **and** the power of the pump motor. Therefore, the rejection has been overcome.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, second paragraph. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic or clarificatory reasons. The changes are not provided for overcoming the prior art nor for any reason related to the statutory requirements for a patent.

In item 9 on page 4 of the Office action, claims 13, 14, 17, 18, 22, and 24 have been rejected as being obvious over

Haverkamp (DE 38 03 006) in view of Kon et al. (JP 410252860A)

(hereinafter "Kon") in view of Struthers (U.S. Patent No.

6,481,973) under 35 U.S.C. § 103.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 13 calls for, *inter alia*:

the monitoring device configured for respectively selecting ~~a~~ one of the predetermined rotational speed-power characteristics allocated to a current position of the directional valve, the monitoring device configured for reading a theoretical power value from the read only memory corresponding to the actual speed according to the characteristic selected, the monitoring device configured for comparing the theoretical power value with the actual power and generating a fault indication if the actual power differs from the theoretical power by more than a permissible amount.

Haverkamp only discloses to measure the actual values of the **current** and/or the speed of the motor, but not the revolution speed **and** the power of the motor, as acknowledged by the Examiner in item 11 of the Office action. Hence, Haverkamp **does not** make a comparison of an "And"- combination of values with a predetermined characteristic of **set**, i.e, predetermined values for these two variables. Haverkamp only **monitors** the chronological behavior of each measured variable current and revolution speed. Haverkamp discloses to only **monitor** how the values of the specific variable develop or change over the time during the water filling-in-step of a dishwasher and registers or triggers only the point of time when the values do not change any more. Therefore, when specific measured variable becomes constant (see figures 5, 9), which is the situation when the pump is completely filled by water and no intake of air occurs at the pump, the water intake valve is closed. As such, Haverkamp **does not** disclose that there is a comparison of actual values of the measured current and/or the speed with set values. Thus, the approach of Haverkamp is totally different than and teaches away from the comparison and fault detection as recited in the claims of the instant application.

Kon discloses to operate a pump (1) at a rotating speed of maximum capacity in other words to run the pump at a rotation

speed for which the shaft power of the pump becomes maximum.

Therefore, Kon discloses to measure the **actual head** Ha (see "solution" and figure 1) by a water level gauge (2) and **rotating speed** of a prime mover (3) by a rotating speed detector (9). The computing element (6a) of a control device (6) **calculates** the actual shaft power (L1) of the pump. Kon discloses that the control device (6) has a table (6b) to show the relationship of maximum output of the prime mover for preset respective rotating speeds, and can find maximum output (L2) in the rotating speed by inputting detected rotating speed (N). The actual shaft power (L1) and the maximum output (L2) are compared with one another. If the actual shaft power (L1) is smaller than the maximum output (L2), speed is increased, and when it is larger, the speed is reduced, and is controlled so that (L1) and (L2) become equal. Thus, Kon only discloses a **one-dimensional** comparison of the actual, calculated shaft power (L1) with the maximum shaft power (L2). Contrary thereto, the present invention as claimed provides a two-dimensional comparison of measured or detected rotational speed **and** performance, i.e. the power of the motor with a predetermined characteristic (see curves C1, C2 in figure 3 depending on the speed n **and** the power P). Thus, Kon is only concerned with adjusting the rotation speed in such a way that the shaft power becomes maximum.

Furthermore, Kon discloses that the signaling of a fault state is missing when the comparison shows that (L1) differs from (L2). Thus, Kon is concerned with a different problem and accordingly provides a different approach than is provided by the present invention as claimed. Therefore, Kon does not make up for the above-noted deficiencies of Haverkamp.

In column 6, lines 50 - 65 of Struthers, Struthers only discloses, in a very general manner, that "dry running of the pump can be identified by a power consumption too low for the pump speed". Consequently Struthers only discloses to monitor the power consumption, which is only one variable. Contrary to Struthers, the present invention as claimed provides a monitoring device for the detection of the rotational speed **and** performance (i.e. power of the motor), for comparison of detected values of the rotational speed **and** the performance with a predetermined characteristic for signaling a fault state or exceptional state when the comparison shows that the detected values significantly differ from the characteristic. The present invention as claimed requires **two variables** and makes a comparison with a set characteristic. This makes the recognition of faults of the fluid flow through the pump much more reliable (see section [005] of the specification). Therefore, Struthers does not make up for the above-noted deficiencies of Haverkamp and Kon.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest **all** the claim limitations.

As seen from the above-given remarks, the references do not show or suggest the monitoring device configured for respectively selecting ~~a~~ one of the predetermined rotational speed-power characteristics allocated to a current position of the directional valve, the monitoring device configured for reading a theoretical power value from the read only memory corresponding to the actual speed according to the characteristic selected, the monitoring device configured for comparing the theoretical power value with the actual power and generating a fault indication if the actual power differs from the theoretical power by more than a permissible amount, as recited in claim 13 of the instant application.

Haverkamp does not disclose the above-noted features.

Kon and Struthers do not make up for the above-noted deficiencies of Haverkamp.

The references applied by the Examiner **do not** teach or suggest all the claim limitations. Therefore, there is no *prima facie* case of obviousness.

Since claim 25 is actually former claim 13, claim 25 to discuss with respect to the following rejection of claim 13 from the previous Office action.

In item 6 on page 4 of the Office action dated November 25, 2009, claims 13 to 14, 22, and 24 have been rejected as being fully anticipated by Haverkamp (DE 38 03 006) under 35 U.S.C. § 102.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 25 calls for, *inter alia*:

a monitoring device configured to detect a rotational speed and a power of the motor, to compare detected values of the rotational speed and the power with a predefined characteristic, and to signal an exceptional state when a comparison result indicates that the detected values deviate significantly from the predefined characteristic.

As noted-above, Haverkamp only discloses to measure the actual values of the current and/or the speed of the motor, but not the revolution speed and the power of the motor. Haverkamp only monitors the chronological behavior of each measured variable current and revolution speed. Haverkamp discloses to only monitor how the values of the specific variable develop or change over the time during the water filling-in-step of a dishwasher and registers or triggers only the point of time when the values do not change any more. As such, Haverkamp does not disclose that there is a comparison of actual values of the measured current and/or the speed with set values. Thus, the approach of Haverkamp is totally different than and teaches away from the comparison and fault of the present invention.

The reference does not show a monitoring device configured to detect a rotational speed **and** a power of the motor, to compare detected values of the rotational speed and the power with a predefined characteristic, and to signal an exceptional state when a comparison result indicates that the detected values deviate significantly from the predefined characteristic, as recited in claim 25 of the instant application. Haverkamp discloses to only monitor how the values of the specific variable develop or change over the time during the water filling-in-step of a dishwasher and registers or triggers only

the point of time when the values do not change any more.

This is contrary to the present invention as claimed, which recites that a monitoring device is configured to detect a rotational speed and a power of the motor, to compare detected values of the rotational speed and the power with a predefined characteristic, and to signal an exceptional state when a comparison result indicates that the detected values deviate significantly from the predefined characteristic.

Since claim 25 is allowable over Haverkamp, dependent claims 14, 17, 18, 22, and 24 are allowable over Haverkamp as well.

In item 13 on page 6 of the Office action, claim 23 has been rejected as being obvious over Haverkamp (DE 38 03 006) in view of Kon (JP 410252860A) (U.S. Patent No. 6,481,973) in view of Struthers (U.S. Patent No. 6,481,973) in view of Omozawa et al. (JP 2001-339980) (hereinafter "Omozawa") under 35 U.S.C. § 103. Omozawa does not make up for the deficiencies of Haverkamp, Kon, and Struthers. Since claim 25 is allowable dependent claims 23 is allowable as well.

In item 15 on page 7 of the Office action, claims 15 and 16 have been rejected as being obvious over Haverkamp (DE 38 03 006) in view of Kon (JP 410252860A) (U.S. Patent No. 6,481,973) in view of Struthers (U.S. Patent No. 6,481,973)

under 35 U.S.C. § 103. Since claim 25 is allowable dependent claims 15 and 16 are allowable as well.

In item 17 on page 7 of the Office action, claim 21 has been rejected as being obvious over Haverkamp (DE 38 03 006) in view of Kon (JP 410252860A) (U.S. Patent No. 6,481,973) in view of Struthers (U.S. Patent No. 6,481,973) in view of Smith et al, (U.S. Patent No. 3,542,496) (hereinafter "Smith") under 35 U.S.C. § 103. Smith does not make up for the deficiencies of Haverkamp, Kon, and Struthers. Since claim 25 is allowable dependent claim 21 is allowable as well.

In item 19 on page 8 of the Office action, claim 20 has been rejected as being obvious over Haverkamp (DE 38 03 006) in view of Kon (JP 410252860A) (U.S. Patent No. 6,481,973) in view of Struthers (U.S. Patent No. 6,481,973) in view of Bourgeois (U.S. Patent No. 5,859,520) under 35 U.S.C. § 103. Bourgeois does not make up for the deficiencies of Haverkamp, Kon, and Struthers. Since claim 25 is allowable dependent claim 20 is allowable as well.

In item 21 on page 8 of the Office action, claim 19 has been rejected as being obvious over Haverkamp (DE 38 03 006) in view of Kon (JP 410252860A) (U.S. Patent No. 6,481,973) in view of Struthers (U.S. Patent No. 6,481,973) under 35 U.S.C.

§ 103. Since claim 25 is allowable dependent claim 19 is allowable as well.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 13 or 25. Claims 13 and 25 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 13, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 13-25 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

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